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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1 to 20 (Canceled).

21. (Previously Presented) A method of assessing the effectiveness of a neurological or psychiatric treatment of a membrane fluidity-related disorder in a mammalian subject, the method comprising:

[calculating a first value of a relaxation parameter for a selected region of the brain in a magnetic resonance imaging (MRI) procedure;]

administering to the subject a neurological or psychiatric treatment to treat the disorder;

calculating a first value of T2 for a selected region of the brain in a magnetic resonance imaging (MRI) procedure;

administering to the subject a challenge to alter a physical or chemical property of cell membranes in the brain of the subject, wherein the challenge is an omega-3 fatty acid, S-adenosylmethionine, a statin, or a cytidine compound;

calculating a second value of [a relaxation parameter] T2 for the selected region of the brain in an MRI procedure; and

detecting any [difference] decrease from [between] the first value of [the relaxation parameter] T2 to [and] the second value of [the relaxation parameter] T2, wherein [a difference] the magnitude of the decrease indicates [that] the effectiveness of the treatment [has an effect] on the subject.

22. (Original) The method of claim 21, wherein the subject is a human patient.